

In the Claims:

1. (Currently Amended) A method of correcting rule violations of a photomask using a digital representation of the photomask, comprising:

providing data representing a plurality of original design shapes to be included on a photomask;

performing corrections on said plurality of original design shapes to generate altered design shapes;

identifying violating areas of the photomask from a digital representation of the photomask, the violating areas including at least one ~~area that violates~~ of areas violating a minimum width rule and at least one area that violates ~~areas violating a~~ minimum space rule for said photomask; [[and]]

comparing said altered design shapes to said original design shapes;

determining if at least a portion of said violating area lies inside of said original design shape and determining if at least a portion of said violating area lies outside of said original design shape; and

manipulating a portion of a ~~each of the violating areas~~ area that lies inside of said original design shape differently than a portion of a ~~based on the placement of the violating area that lies outside of said original~~ area relative to a design shape of a layout pattern to be imaged using the photomask, said manipulating performed for the purpose of eliminating the rule violations.

2. (Original) The method of claim 1 further comprising manipulating each of the violating areas differently based on whether the area violates a minimum width rule and whether the area violates a minimum space rule for said photomask.

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3. (Currently Amended) The method of claim 2 wherein said manipulating includes enlarging an area that violates said minimum width rule when said violating area lies inside said original [[a]] design shape.
4. (Currently Amended) The method of claim 2 wherein said manipulating includes enlarging an area that violates said minimum space rule when said violating area lies outside said original [[a]] design shape.
5. (Currently Amended) The method of claim 2 wherein said manipulating includes removing an area that violates said minimum width rule when said violating area lies outside said original [[a]] design shape.
6. (Currently Amended) The method of claim 2 wherein said manipulating includes filling an area that violates said minimum space rule when said violating area lies inside said original [[a]] design shape.

7. (Currently Amended) The method of claim 2 wherein said manipulating includes:
- enlarging an area that violates said minimum width rule when said violating area lies inside said original [[a]] design shape;
 - removing an area which violates said minimum width rule when said violating area lies outside said original [[a]] design shape;
 - filling an area which violates said minimum space rule when said violating area lies inside said original [[a]] design shape; and
 - enlarging an area which violates said minimum space rule when said violating area lies outside said original [[a]] design shape.
8. (Canceled)
9. (Currently Amended) The method of claim 1 [[8]] wherein said violating areas include an area violating a minimum space rule between a filled area of a mask shape and another filled area of the mask shape.
10. (Currently Amended) The method of claim 1 [[8]] wherein said violating areas include an area violating a minimum space rule between a mask shape and another mask shape of said photomask.

11. (Currently Amended) A machine readable storage medium having a set of instructions recorded thereon for performing a method of correcting rule violations of a photomask using a digital representation of the photomask, said set of instructions method comprising:

a first instruction for providing data representing a plurality of original design shapes to be included on a photomask;

a second instruction for performing corrections on said plurality of original design shapes to generate altered design shapes;

a third instruction for identifying violating areas of the photomask from a digital representation of the photomask, the violating areas including at least one area that violates of areas violating a minimum width rule and at least one area that violates areas violating a minimum space rule for said photomask; [[and]]

a fourth instruction for comparing said altered design shapes to said original design shapes;

a fifth instruction for determining if at least a portion of said violating area lies inside of said original design shape and for determining if at least a portion of said violating area lies outside of said original design shape; and

a sixth instruction for manipulating a portion of each of the violating areas that lie inside of said original design shape differently than a portion of the based on the placement of the violating areas that lie outside of said original area relative to a design shape of a layout pattern to be imaged using the photomask, said manipulating performed for the purpose of eliminating the rule violations.

12. (Currently Amended) The machine readable storage medium of claim 11 further comprising an instruction for manipulating each of the violating areas differently based on whether the area violates a minimum width rule and whether the area violates a minimum space rule for said photomask.

13. (Currently Amended) The machine readable storage medium of claim 12 wherein said sixth instruction for manipulating includes an instruction for enlarging an area that violates said minimum width rule when said area lies inside a design shape.

14. (Currently Amended) The machine readable storage medium of claim 12 wherein said sixth instruction for manipulating includes an instruction for enlarging an area that violates said minimum space rule when said area lies outside a design shape.

15. (Currently Amended) The machine readable storage medium of claim 12 wherein said sixth instruction for manipulating includes removing an area that violates said minimum width rule when said area lies outside a design shape.

16. (Currently Amended) The machine readable storage medium of claim 12 wherein said sixth instruction for manipulating includes filling an area that violates said minimum space rule when said area lies inside a design shape.

17. (Currently Amended) The machine readable storage medium of claim 12 wherein said sixth instruction for manipulating includes~~[[:]]~~ instructions for enlarging an area that violates said minimum width rule when said area lies inside a design shape; removing an area which violates said minimum width rule when said area lies outside a design shape; filling an area which violates said minimum space rule when said area lies inside a design shape; and enlarging an area which violates said minimum space rule when said area lies outside a design shape.
18. (Canceled)
19. (Currently Amended) The machine readable storage medium of claim 11 ~~[[18]]~~ wherein said violating areas include an area violating a minimum space rule between a filled area of a mask shape and another filled area of the mask shape.
20. (Currently Amended) The machine readable storage medium of claim 11 ~~[[18]]~~ wherein said violating areas include an area violating a minimum space rule between a mask shape and another mask shape of said photomask.

21. (Currently Amended) A system operable to correct rule violations of an altered ~~[[a]]~~ photomask using a digital representation of the original photomask having design shapes that have undergone optical proximity corrections (OPC), said system being operable to identify violating areas of the altered photomask from a digital representation of the photomask, the violating areas including at least one area that violates ~~of areas violating~~ a minimum width rule and at least one area that violates ~~areas violating~~ a minimum space rule for said photomask, said system further being operable to manipulate ~~each of the violating areas~~ that lie outside of original design shapes differently than based on the placement of the violating areas that the lie inside the original design shape ~~area relative to a design shape of a layout pattern to be imaged using the photomask~~, said manipulation being for the purpose of eliminating the rule violations.

22. (New) The method of claim 1 wherein said step of performing corrections comprises performing optical proximity corrections (OPC)

23. (New) The machine readable storage medium of claim 11 wherein said second instructions for performing corrections comprise an instruction for performing optical proximity corrections.